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US Pre-Grant Publication Full-Text Database	
JPO Abstracts Database	
EPO Abstracts Database	
Derwent World Patents Index	
IBM Technical Disclosure Bulletins	▼

Refine Search:

121 and 111 and 12

[Clear](#)**Search History****Today's Date: 3/23/2001**

<u>DB Name</u>	<u>Query</u>	<u>Hit Count</u>	<u>Set Name</u>
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USPT	l19 and l18 and l17 and l16 and l14 and l1	0	<u>L20</u>
USPT	(((8/401)! .CCLS.))	88	<u>L19</u>
USPT	(((510/392)! .CCLS.))	380	<u>L18</u>
USPT	(((435/277)! .CCLS.))	143	<u>L17</u>
USPT	(((435/254.1)! .CCLS.))	464	<u>L16</u>
USPT	(((435/254)! .CCLS.))	0	<u>L15</u>
USPT	(((435/209)! .CCLS.))	297	<u>L14</u>
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USPT	l11 and l6	2	<u>L12</u>
USPT	lucknowense or pannorum or keratinophilum or lobatum or merdarium or queenslandicum or tropicum	24	<u>L11</u>
USPT	l8 and l5	35	<u>L10</u>
USPT	l8 and l6	25	<u>L9</u>
USPT	muta\$	37556	<u>L8</u>
USPT	mutant	20970	<u>L7</u>
USPT	l1 and l2 and l4	38	<u>L6</u>
USPT	l1 and l2 and l3	58	<u>L5</u>
USPT	neutral	144512	<u>L4</u>
USPT	alkalin\$	171518	<u>L3</u>
USPT	CHRYSPOR\$	263	<u>L2</u>
USPT	cellulase	3209	<u>L1</u>

WEST**Generate Collection****Search Results - Record(s) 1 through 2 of 2 returned.**☐ 1. Document ID: US 6015707 A

L13: Entry 1 of 2

File: USPT

Jan 18, 2000

US-PAT-NO: 6015707

DOCUMENT-IDENTIFIER: US 6015707 A

TITLE: Treating cellulosic materials with cellulases from chrysosporium

DATE-ISSUED: January 18, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Emalfarb; Mark Aaron	Jupiter	FL	N/A	N/A
Ben-Bassat; Arie	Wilmington	DE	N/A	N/A
Sinitsyn; Arkady Panteleimonovich	Moscow	N/A	N/A	RUX

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Emalfarb; Mark A.	Jupiter	FL	N/A	N/A	04

APPL-NO: 9/ 106026

DATE FILED: June 29, 1998

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATION This is a divisional of co-pending application Ser. No. 08/731,170 filed Oct. 10, 1996, now U.S. Pat. No. 5,811,381.

INT-CL: [6] D06M 16/00, D21C 1/00, D21C 3/00, C09B 67/00

US-CL-ISSUED: 435/263; 435/277, 435/278, 8/401

US-CL-CURRENT: 435/263; 435/277, 435/278, 8/401

FIELD-OF-SEARCH: 435/263, 435/277, 435/278, 8/401

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<u>3966543</u>	June 1976	Cayle et al.	162/158
<u>4610800</u>	September 1986	Durham et al.	510/195

OTHER PUBLICATIONS

Reese et al., "Beta-D-1,3 glucanases in fungi," Canadian Journal of Microbiology (1959), vol. 5, pp. 173-185.

ART-UNIT: 162

PRIMARY-EXAMINER: Wax; Robert A.

ATTY-AGENT-FIRM: Morgan & Finnegan, LLP

ABSTRACT:

The subject invention relates to novel compositions of neutral and/or alkaline cellulase and methods for obtaining neutral and/or alkaline cellulase compositions from Chrysosporium cultures, in particular Chrysosporium lucknowense. This invention also provides mutants and methods of generating mutants of Chrysosporium capable of producing neutral and/or alkaline cellulase. This invention also relates to the genes encoding the enzymes comprising the neutral and/or alkaline cellulase composition. In addition, this invention provides methods of culturing Chrysosporium to produce neutral and/or alkaline cellulases. The neutral and/or alkaline cellulase compositions of the subject invention can be used in a variety of processes including stone washing of clothing, detergent processes, deinking and biobleaching of paper & pulp and treatment of waste streams.

50 Claims, 0 Drawing figures

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
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☐ 2. Document ID: US 5811381 A

L13: Entry 2 of 2

File: USPT

Sep 22, 1998

US-PAT-NO: 5811381

DOCUMENT-IDENTIFIER: US 5811381 A

TITLE: Cellulase compositions and methods of use

DATE-ISSUED: September 22, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP	CODE	COUNTRY
Emalfarb; Mark Aaron	Jupiter	FL	N/A		N/A
Ben-Bassat; Arie	Wilmington	DE	N/A		N/A
Burlingame; Richard P.	Manitowoc	WI	N/A		N/A
Chernoglazov; Vladimir Mikhaylovich	Moscow	N/A	N/A		RUX
Okounov; Oleg Nicolaevich	Moscow	N/A	N/A		RUX
Olson; Philip T.	Manitowoc	WI	N/A		N/A
Sinitsyn; Arkady Panteleimonovich	Moscow	N/A	N/A		RUX
Solovjeva; Irina Vladimirovna	Moscow Region	N/A	N/A		RUX

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP	CODE	COUNTRY	TYPE	CODE
Emalfarb; Mark A.	Jupiter	FL	N/A		N/A	04	

APPL-NO: 8/ 731170

DATE FILED: October 10, 1996

INT-CL: [6] C11D 3/386, C12N 9/24, C12N 9/42, A61K 38/47

US-CL-ISSUED: 510/320; 510/392, 435/200, 435/209, 424/94.61

US-CL-CURRENT: 510/320; 424/94.61, 435/200, 435/209, 510/392

FIELD-OF-SEARCH: 435/200, 435/209, 510/320, 510/392, 424/94.61

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<u>3844890</u>	October 1974	Horikoshi et al.	195/62
<u>4081328</u>	March 1978	Skinner	195/62
<u>4435307</u>	March 1984	Barbesgaard et al.	252/174.12
<u>4832864</u>	May 1989	Olson	252/174.12
<u>4912056</u>	March 1990	Olson	435/263
<u>5006126</u>	April 1991	Olson et al.	8/401
<u>5122159</u>	June 1992	Olson et al.	8/401
<u>5290474</u>	March 1994	Clarkson et al.	252/174.12

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
0 220 016	October 1986	EPX	
1368599	February 1974	GBX	
2126029	March 1984	GBX	

OTHER PUBLICATIONS

Van Oorschot, A Revision of Chrysosporium and Allied Genera, in Studies in Mycology, No. 20 (1980), pp. 1-3, 8-9 and 32-35.
Leisola & Linko (1976) Determination of the Solubilizing Activity of a Cellular Complex with Dyed Substrates, Anal. Biochem. 70, 592-599,
Reese, E.T. et al. "Beta-D-1,3 glucanases in fungi" Canadian Journal of Microbiology (1959), vol. 5, pp. 173-185.
ATCC Catalogue of Fungi/Yeasts, 17th Edition, 1987, p. 368.
Mandels, M. et al. "Induction of cellulase in Trichoderma viride as influenced by carbon sources and metals" Journal of Bacteriology (1957), vol. 73, pp. 269-278.

ART-UNIT: 162

PRIMARY-EXAMINER: Lau; Kawai

ATTY-AGENT-FIRM: Morgan & Finnegan

ABSTRACT:

The subject invention relates to novel compositions of neutral and/or alkaline cellulase and methods for obtaining neutral and/or alkaline cellulase compositions from Chrysosporium cultures, in particular Chrysosporium lucknowense. This invention also provides mutants and methods of generating mutants of Chrysosporium capable of producing neutral and/or alkaline cellulase. This invention also relates to the genes encoding the enzymes comprising the neutral and/or alkaline cellulase composition. In addition, this invention provides methods of culturing Chrysosporium to produce neutral and/or alkaline cellulases. The neutral and/or alkaline cellulase compositions of the subject invention can be used in a variety of processes including stone washing of clothing, detergent processes, deinking and biobleaching of paper & pulp and treatment of waste streams.

44 Claims, 0 Drawing figures

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
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Generate Collection

Terms	Documents
111 and 15	2

Display 10 Documents, starting with Document: 2

Display Format: FRO Change Format

WEST[Generate Collection](#)**Search Results - Record(s) 1 through 2 of 2 returned.**☐ 1. Document ID: US 6015707 A

L12: Entry 1 of 2

File: USPT

Jan 18, 2000

US-PAT-NO: 6015707

DOCUMENT-IDENTIFIER: US 6015707 A

TITLE: Treating cellulosic materials with cellulases from chrysosporium

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
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☐ 2. Document ID: US 5811381 A

L12: Entry 2 of 2

File: USPT

Sep 22, 1998

US-PAT-NO: 5811381

DOCUMENT-IDENTIFIER: US 5811381 A

TITLE: Cellulase compositions and methods of use

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw Desc	Image
------	-------	----------	-------	--------	----------------	------	-----------	--------	------	-----------	-------

[Generate Collection](#)

Terms	Documents
l11 and l6	2

[Display](#)[10](#)

Documents, starting with Document:

[2](#)**Display Format:**[TI](#)[Change Format](#)

WEST**Generate Collection****Search Results - Record(s) 1 through 2 of 2 returned.**☐ 1. Document ID: US 6015707 A

L22: Entry 1 of 2

File: USPT

Jan 18, 2000

US-PAT-NO: 6015707

DOCUMENT-IDENTIFIER: US 6015707 A

TITLE: Treating cellulosic materials with cellulases from chrysosporium

DATE-ISSUED: January 18, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Emalfarb; Mark Aaron	Jupiter	FL	N/A	N/A
Ben-Bassat; Arie	Wilmington	DE	N/A	N/A
Sinitsyn; Arkady Panteleimonovich	Moscow	N/A	N/A	RUX

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Emalfarb; Mark A.	Jupiter	FL	N/A	N/A	04

APPL-NO: 9/ 106026

DATE FILED: June 29, 1998

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CROSS-REFERENCE TO RELATED APPLICATION This is a divisional of co-pending application Ser. No. 08/731,170 filed Oct. 10, 1996, now U.S. Pat. No. 5,811,381.

INT-CL: [6] D06M 16/00, D21C 1/00, D21C 3/00, C09B 67/00

US-CL-ISSUED: 435/263; 435/277, 435/278, 8/401

US-CL-CURRENT: 435/263; 435/277, 435/278, 8/401

FIELD-OF-SEARCH: 435/263, 435/277, 435/278, 8/401

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<u>3966543</u>	June 1976	Cayle et al.	162/158
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OTHER PUBLICATIONS

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☐ 2. Document ID: US 5811381 A

L22: Entry 2 of 2

File: USPT

Sep 22, 1998

US-PAT-NO: 5811381

DOCUMENT-IDENTIFIER: US 5811381 A

TITLE: Cellulase compositions and methods of use

DATE-ISSUED: September 22, 1998

INVENTOR-INFORMATION:

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Emalfarb; Mark Aaron	Jupiter	FL	N/A	N/A
Ben-Bassat; Arie	Wilmington	DE	N/A	N/A
Burlingame; Richard P.	Manitowoc	WI	N/A	N/A
Chernoglazov; Vladimir Mikhaylovich	Moscow	N/A	N/A	RUX
Okounov; Oleg Nicolaevich	Moscow	N/A	N/A	RUX
Olson; Philip T.	Manitowoc	WI	N/A	N/A
Sinitsyn; Arkady Panteleimonovich	Moscow	N/A	N/A	RUX
Solovjeva; Irina Vladimirovna	Moscow Region	N/A	N/A	RUX

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NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
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APPL-NO: 8/ 731170

DATE FILED: October 10, 1996

INT-CL: [6] C11D 3/386, C12N 9/24, C12N 9/42, A61K 38/47

US-CL-ISSUED: 510/320, 510/392, 435/200, 435/209, 424/94.61

US-CL-CURRENT: 510/320, 424/94.61, 435/200, 435/209, 510/392

FIELD-OF-SEARCH: 435/200, 435/209, 510/320, 510/392, 424/94.61

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
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<u>4081328</u>	March 1978	Skinner	195/62
<u>4435307</u>	March 1984	Barbesgaard et al.	252/174.12
<u>4832864</u>	May 1989	Olson	252/174.12
<u>4912056</u>	March 1990	Olson	435/263
<u>5006126</u>	April 1991	Olson et al.	8/401
<u>5122159</u>	June 1992	Olson et al.	8/401
<u>5290474</u>	March 1994	Clarkson et al.	252/174.12

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Leisola & Linko (1976) Determination of the Solubilizing Activity of a Cellular Complex with Dyed Substrates, Anal. Biochem. 70, 592-599,

Reese, E.T. et al. "Beta-D-1,3 glucanases in fungi" Canadian Journal of Microbiology (1959), vol. 5, pp. 173-185.

ATCC Catalogue of Fungi/Yeasts, 17th Edition, 1987, p. 368.

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ART-UNIT: 162

PRIMARY-EXAMINER: Lau; Kawai

ATTY-AGENT-FIRM: Morgan & Finnegan

ABSTRACT:

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44 Claims, 0 Drawing figures

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Draw. Desc	Image
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Generate Collection

Terms	Documents
l21 and l11 and l2	2

Display 10 Documents, starting with Document: 2

Display Format: FRO Change Format

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(FILE 'HOME' ENTERED AT 14:20:07 ON 23 MAR 2001)

FILE 'REGISTRY' ENTERED AT 14:20:15 ON 23 MAR 2001

L1 1 S CELLULASE/CN

INDEX 'ADISALERTS, ADISINSIGHT, AGRICOLA, ANABSTR, AQUASCI, BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DDFB, DDFU, DGENE, DRUGB, DRUGLAUNCH, DRUGMONOG2, DRUGNL, ...' ENTERED AT 14:20:31 ON 23

MAR

2001

SEA L1

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2757 FILE AGRICOLA
37 FILE ANABSTR
0* FILE AQUASCI
1418 FILE BIOBUSINESS
0* FILE BIOCOMMERCE
4814 FILE BIOSIS
1494 FILE BIOTECHNO
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0* FILE CEABA-VTB
13 FILE CEN
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0* FILE CONFSCI
0* FILE CROPB
0* FILE CROPU
0* FILE DDFB
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1425 FILE MEDLINE
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131 FILE PROMT
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131 FILE TOXLINE
0* FILE USPATFULL
2 FILE WPIDS
0* FILE WPINDEX
L2 QUE L1

FILE 'BIOSIS, AGRICOLA, BIOTECHNO, MEDLINE, BIOBUSINESS, DRUGMONOG2,
PROMT, TOXLINE, CIN, ANABSTR, DRUGLAUNCH, CANCERLIT, CEN, WPIDS,
NIOSH TIC' ENTERED AT 14:20:52 ON 23 MAR 2001

L3 11948 S L1
L4 121 S L3 AND CHRYSOSPOR?
L5 80 DUP REM L4 (41 DUPLICATES REMOVED)
L6 7 S L5 AND (NEUTRAL OR ALKALINE)

=> d ibib ab kwic 1

L6 ANSWER 1 OF 7 BIOSIS COPYRIGHT 2001 BIOSIS

ACCESSION NUMBER: 2000:324657 BIOSIS

DOCUMENT NUMBER: PREV200000324657

TITLE: Treating cellulosic materials with cellulases from
chrysosporium.

AUTHOR(S): Emalfarb, Mark Aaron (1); Ben-Bassat, Arie; Sinitsyn,
Arkady Panteleimonovich

CORPORATE SOURCE: (1) Jupiter, FL USA

ASSIGNEE: Emalfarb; Mark A., Jupiter, FL, USA

PATENT INFORMATION: US 6015707 January 18, 2000

SOURCE: Official Gazette of the United States Patent and Trademark
Office Patents, (Jan. 18, 2000) Vol. 1230, No. 3, pp. No
pagination. e-file.
ISSN: 0098-1133.

DOCUMENT TYPE: Patent

LANGUAGE: English

AB The subject invention relates to novel compositions of **neutral**
and/or **alkaline** cellulase and methods for obtaining
neutral and/or **alkaline** cellulase compositions from
Chrysosporium cultures, in particular **Chrysosporium**
lucknowense. This invention also provides mutants and methods of
generating mutants of **Chrysosporium** capable of producing
neutral and/or **alkaline** cellulase. This invention also
relates to the genes encoding the enzymes comprising the **neutral**
and/or **alkaline** cellulase composition. In addition, this
invention provides methods of culturing **Chrysosporium** to produce
neutral and/or **alkaline** cellulases. The **neutral**
and/or **alkaline** cellulase compositions of the subject invention
can be used in a variety of processes including stone washing of
clothing,
detergent processes, deinking and biobleaching of paper pulp and
treatment of waste streams.

TI Treating cellulosic materials with cellulases from **chrysosporium**

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neutral and/or **alkaline** cellulases. The **neutral**
and/or **alkaline** cellulase compositions of the subject invention
can be used in a variety of processes including stone washing of
clothing,
detergent. . .

ORGN Super Taxa

Fungi Imperfecti or Deuteromycetes: Fungi, Plantae

ORGN Organism Name

Chrysosporium lucknowense (Fungi Imperfecti or
Deuteromycetes)

ORGN Organism Superterms

Fungi; Microorganisms; Nonvascular Plants; Plants

RN 9012-54-8 (CELLULASE)

=> d ibib ab kwic 2

L6 ANSWER 2 OF 7 BIOSIS COPYRIGHT 2001 BIOSIS
 ACCESSION NUMBER: 1998:171499 BIOSIS
 DOCUMENT NUMBER: PREV199800171499
 TITLE: Characterization of a cellobiose dehydrogenase from
 Humicola insolens.
 AUTHOR(S): Schou, Charlotte; Christensen, Margrethe H.; Schuelein,
 Martin (1)
 CORPORATE SOURCE: (1) Novo Nordisk A/S, DK-2880 Bagsvaerd Denmark
 SOURCE: Biochemical Journal, (Feb. 15, 1998) Vol. 330, No. 1, pp.
 565-571.
 ISSN: 0264-6021.
 DOCUMENT TYPE: Article
 LANGUAGE: English

AB The major cellobiose dehydrogenase (oxidase) (CBDH) secreted by the
 soft-rot thermophilic fungus Humicola insolens during growth on cellulose
 has been isolated and purified. It was shown to be a haemoflavoprotein
 with a molecular weight of 92 kDa and a pi of 4.0, capable of oxidizing
 the anomeric carbon of cellobiose, soluble cellooligosaccharides,
 lactose,
 xylobiose and maltose. Possible electron acceptors are
 2,6-dichlorophenol-indophenol (DCPIP), Methylene Blue,
 3,5-di-t-butyl-1,2-benzoquinone, potassium ferricyanide, cytochrome c and
 molecular oxygen. The oxidation of the prosthetic groups by oxygen was
 monitored at 449 nm for the flavin group and at 562 nm for the haem
 group.
 The curves were very similar to those of the cellobiose dehydrogenase
 from Phanerochaete **chrysosporium**, suggesting a similar mechanism. The
 pH-optima for the oxidation varied remarkably depending on the electron
 acceptor. For the organic electron acceptors, the pH-optima ranged from
 pH 4 for Methylene Blue to pH 7 for DCPIP and the benzoquinone. In the case
 of the FeIII-containing electron acceptors, the enzyme displayed
alkaline pH-optima, in contrast to the properties of cellobiose
 dehydrogenases from Phanerochaete **chrysosporium** and
 Myceliophthora (Sporotrichum) thermophila. The enzyme has optimal
 activity
 at 65degree C.

AB. . . at 562 nm for the haem group. The curves were very similar to those
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 . . Blue to pH 7 for DCPIP and the benzoquinone. In the case of the
 FeIII-containing electron acceptors, the enzyme displayed **alkaline**
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 from Phanerochaete **chrysosporium** and Myceliophthora (Sporotrichum)
 thermophila. The enzyme has optimal activity at 65degree C.

ORGN . . .
 Plantae; Fungi Imperfecti or Deuteromycetes: Fungi, Plantae

ORGN Organism Name
 Humicola-insolens (Fungi Imperfecti or Deuteromycetes);
 Myceliophthora-thermophila (Fungi Imperfecti or Deuteromycetes);
 Phanerochaete-**chrysosporium** (Basidiomycetes)

ORGN Organism Superterms
 Fungi; Microorganisms; Nonvascular Plants; Plants

RN 54576-85-1Q (CELLOBIOSE DEHYDROGENASE)
 117698-11-0Q (CELLOBIOSE DEHYDROGENASE)
 9012-54-8 (CELLULASE)

=> d ibib ab kwic 3

L6 ANSWER 3 OF 7 BIOSIS COPYRIGHT 2001 BIOSIS
ACCESSION NUMBER: 1994:481792 BIOSIS
DOCUMENT NUMBER: PREV199497494792
TITLE: Fungal enzyme activities using sawdust as carbon source.
AUTHOR(S): Elshafei, Ali M.
CORPORATE SOURCE: Dep. Microbial Chem., Natl. Res. Centre, Dokki, Cairo
Egypt
SOURCE: Egyptian Journal of Microbiology, Vol. 27, No. 1, pp.
103-109.
ISSN: 0301-8172.
DOCUMENT TYPE: Article
LANGUAGE: English
SUMMARY LANGUAGE: English; Arabic
AB Cellulase and protease activities were determined in the extracellular
fluids of different fungal strains grown on sawdust (1%) for different
incubation periods. Considerable amounts of CMC-ase and beta-glucosidase
were observed in case of *Penicillium funiculosum*, while as a high
activity
of **neutral** protease was detected only with *Phanerochaete*
chrysosporium. The results show the importance of including a
pretreatment step in order to improve sawdust properties towards
enzymatic
attack. On the other hand some enzymatic activities from *Eupenicillium*
javanicum grown on sawdust as the only carbon source were determined. The
levels of some of these enzymes were compared in both endo- and
extracellular fractions as well as in shake and static cultures.
AB. . . periods. Considerable amounts of CMC-ase and beta-glucosidase were
observed in case of *Penicillium funiculosum*, while as a high activity of
neutral protease was detected only with *Phanerochaete*
chrysosporium. The results show the importance of including a
pretreatment step in order to improve sawdust properties towards
enzymatic
attack. On. . .
ORGN . . .
Deuteromycetes: Fungi, Plantae
ORGN Organism Name
Basidiomycetes (Fungi - Unspecified); *Eupenicillium javanicum*
(Ascomycetes); *Penicillium funiculosum* (Fungi Imperfecti or
Deuteromycetes); *Phanerochaete chrysosporium* (Basidiomycetes)
ORGN Organism Superterms
fungi; microorganisms; nonvascular plants; plants
RN 7440-44-0 (CARBON)
9012-54-8 (CELLULASE)
9001-92-7 (PROTEASE)
9001-22-3 (BETA-GLUCOSIDASE)

=> d ibib ab kwic 4

L6 ANSWER 4 OF 7 AGRICOLA
ACCESSION NUMBER: 92:94763 AGRICOLA
DOCUMENT NUMBER: IND92057049
TITLE: Effect of white rot basidiomycetes on chemical
composition and in vitro digestibility of oat straw
and alfalfa stems.
AUTHOR(S): Jung, H.G.; Valdez, F.R.; Abad, A.R.; Blanchette,
R.A.; Hatfield, R.D.
CORPORATE SOURCE: USDA, ARS, Departments of Animal Science, St. Paul
AVAILABILITY: DNAL (49 J82)
SOURCE: Journal of animal science, June 1992. Vol. 70, No. 6.
p. 1292-1935

Publisher: Champaign, Ill. : American Society of
Animal Science.

CODEN: JANSAG; ISSN: 0021-8812

Includes references.

NOTE:

DOCUMENT TYPE:

Article

FILE SEGMENT:

U.S. Imprints not USDA, Experiment or Extension

LANGUAGE:

English

AB Five white rot basidiomycetes were evaluated for their potential to improve ruminal degradation of oat straw and alfalfa stems. *Phanerochaete chrysosporium* (PC), *Scytinostroma galactinum* (SG), *Phlebia tremellosa* (PT), *Phellinus pini* (PP), and *Pholiota mutabilis* (PM) were incubated on oat straw and alfalfa stems for 30 d at 28 degree C and 90% relative humidity. Detergent fiber and total fiber components (**neutral** sugars, uronic acids, Klason lignin [KL], and ester- and ether-linked non-core lignin phenolics), core lignin nitrobenzene oxidation products, and IVDMD were determined. Electron microscopy of KMnO4-stained and cellulase/colloidal gold-labeled sections was used to monitor fungal activity. Large losses of DM were noted for all fungal species on both substrates. Lignin (KL and ADL) was removed ($P < .05$)

from

oat straw by PC and PT treatment, but no net loss of lignin was observed for fungal treatment of alfalfa stems. Cell-wall polysaccharides were removed from both substrates by fungal activity. Only PC increased ($P < .05$) IVDMD of oat straw, and SG, PT, PP, and PC treatment decreased ($P < .05$) IVDMD of alfalfa stems, presumably because the fungi removed the

most

readily fermentable polysaccharides. Transmission electron microscopy using KMnO4 staining showed a nonselective white rot attack. Cytochemical studies using colloidal gold-labeled exo- and endocellulases were used to map the location of cellulose in the cell wall before and after decay by the white rot fungi. All the white rot fungi tested had eroded and

thinned

cell walls. Residual cell walls were well-labeled; both endo- and exocellulose-colloidal gold identified the cellulosic wall material that remained. It seems that PC can improve the quality of oat straw, but the loss of DM severely limits the practical benefit of this increased digestibility.

AB Five white rot basidiomycetes were evaluated for their potential to improve ruminal degradation of oat straw and alfalfa stems. *Phanerochaete chrysosporium* (PC), *Scytinostroma galactinum* (SG), *Phlebia tremellosa* (PT), *Phellinus pini* (PP), and *Pholiota mutabilis* (PM) were incubated on oat straw and alfalfa stems for 30 d at 28 degree C and 90% relative humidity. Detergent fiber and total fiber components (**neutral** sugars, uronic acids, Klason lignin [KL], and ester- and ether-linked non-core lignin phenolics), core lignin nitrobenzene oxidation products, and IVDMD. . .

CT alfalfa; basidiomycetes; cell wall components; chemical composition; **chrysosporium**; electron microscopy; fiber; in vitro digestibility; lignin; oat straw; phanerochaete; phlebia; pholiota mutabilis; polysaccharides; sugars

RN 7440-57-5 (COLLOIDAL GOLD)

7722-64-7 (KMNO4)

8068-04-0 (KLASON LIGNIN)

9004-34-6 (CELLULOSE)

9005-53-2 (LIGNIN)

9012-54-8 (CELLULASE)

130525-73-4 (URONIC ACIDS)

=> d ibib ab kwic 5

L6 ANSWER 5 OF 7 AGRICOLA

ACCESSION NUMBER: 92:74481 AGRICOLA

DOCUMENT NUMBER: IND92042615

TITLE: Optimisation of the **alkaline** peroxide

and pretreatment for the delignification of rice straw
 its applications.
 AUTHOR(S): Patel, M.M.; Bhatt, R.M.
 CORPORATE SOURCE: Institute of Science, Bombay, India
 AVAILABILITY: DNAL (TP1.J686)
 SOURCE: Journal of chemical technology and biotechnology,
 1992. Vol. 53, No. 3. p. 253-263
 Publisher: Essex : Elsevier Applied Science
 Publishers.
 CODEN: JCTBED; ISSN: 0268-2575
 NOTE: Includes references.
 DOCUMENT TYPE: Article
 FILE SEGMENT: Non-U.S. Imprint other than FAO
 LANGUAGE: English
 TI Optimisation of the **alkaline** peroxide pretreatment for the
 delignification of rice straw and its applications.
 CT. . . cattle; cellulase; cellulose; chemical degradation; culture media;
 digestibility; dry matter; fungal protein; hemicelluloses; hydrogen
 peroxide; lignin; lignocellulose; optimization; oxidation; phanerochaete
chrysosporium; pretreatment; protein content; rice straw; rumen
 digestion; saccharification; sodium hydroxide; solubility; substrates;
 temperature; time
 RN 1310-73-2 (SODIUM HYDROXIDE)
 7722-84-1 (HYDROGEN PEROXIDE)
 9004-34-6 (CELLULOSE)
 9005-53-2 (LIGNIN)
9012-54-8 (CELLULASE)
 11132-73-3 (LIGNOCELLULOSE)

=> d ibib ab kwic 6

L6 ANSWER 6 OF 7 BIOTECHNO COPYRIGHT 2001 Elsevier Science B.V.
 ACCESSION NUMBER: 1992:22340463 BIOTECHNO
 TITLE: Xylanase activity of Phanerochaete
chrysosporium
 AUTHOR: Dobozi M.S.; Szakacs G.; Bruschi C.V.
 CORPORATE SOURCE: Department of Biochemistry, Central Food Research
 Institute, Herman Otto ut 15,H-1022 Budapest,
 Hungary.
 SOURCE: Applied and Environmental Microbiology, (1992), 58/11
 (3466-3471)
 CODEN: AEMIDF ISSN: 0099-2240
 DOCUMENT TYPE: Journal; Article
 COUNTRY: United States
 LANGUAGE: English
 SUMMARY LANGUAGE: English
 AB Xylan-degrading enzymes were induced when Phanerochaete
chrysosporium was grown at 30.degree.C in shake flask media
 containing xylan, Avicel PH 102, or ground corn stalks. The highest
 xylanase activity was produced in the corn stalk medium, while the
 xylan-based fermentation resulted in the lowest induction. Analytical
 and
 preparative isoelectric focusing were used to characterize xylanase
 multienzyme components. Preparative focusing was performed only with the
 cultures grown on Avicel and corn stalk. Of over 30 protein bands
 separated by analytical focusing from the Avicel and corn stalk media,
 three main groups (I, II, and III) of about five isoenzymes each showed
 xylanase activity when a zymogram technique with a xylan overlay was
 used. Enzyme assays revealed the presence of 1,4-.beta.-endoxylanase and
 arabinofuranosidase activities in all three isoenzyme groups separated
 by
 preparative isoelectric focusing. .beta.-Xylosidase activity appeared in
 the first peak and also as an independent peak between peaks II and III.

Denatured molecular masses for the three isoenzyme groups were found to be between 18 and 90 kDa, and pI values were in the range of 4.2 to 6.0. .beta.- Xylosidase has an apparent molecular mass of 20, 30, and 90 kDa (peak I) and 18 and 45 kDa (independent peak), indicating a trimer and dimer structure, respectively, with pI values of 4.2 and 5.78, respectively. Three more minor xylanase groups were produced on corn stalk medium: a double peak in the acidic range (pI 6.25 to 6.65 and 6.65 to 7.12) and two minor peaks in the **alkaline** range (pI 8.09 to 8.29 and 9.28 to 9.48, respectively). The profile of xylanases separated by isoelectric focusing (zymogram) of culture filtrate from cells grown on corn stalk media was more complex than that of culture supernatants from cells grown on cellulose. The pH optima of the three major xylanase groups are in the range of pH 4 to 5.5.

TI Xylanase activity of *Phanerochaete chrysosporium*
 AB Xylan-degrading enzymes were induced when *Phanerochaete chrysosporium* was grown at 30.degree.C in shake flask media containing xylan, Avicel PH 102, or ground corn stalks. The highest xylanase. . . double peak in the acidic range (pI 6.25 to 6.65 and 6.65 to 7.12) and two minor peaks in the **alkaline** range (pI 8.09 to 8.29 and 9.28 to 9.48, respectively). The profile of xylanases separated by isoelectric focusing (zymogram) of. . .

RN (arabinofuranosidase) 138263-79-3; (cellulase) **9012-54-8**;
 1,3 (xylan) 9014-63-5; (xylan 1,4 beta xylosidase) 9025-53-0; (xylan endo beta xylosidase) 37278-89-0, 9025-55-2

=> d ibib ab kwic 7

L6 ANSWER 7 OF 7 BIOBUSINESS COPYRIGHT 2001 BIOSIS
 ACCESSION NUMBER: 92:40790 BIOBUSINESS
 DOCUMENT NUMBER: 0452620
 TITLE: Effect of white rot basidiomycetes on chemical composition and in vitro digestibility of oat straw and alfalfa stems.
 AUTHOR: JUNG H G; VALDEZ F R; ABAD A R; BLANCHETTE R A; HATFIELD R D
 CORPORATE SOURCE: PLANT SCI. RES. UNIT U.S. DAIRY FORAGE RES. CENT. CLUSTER, UNIV. MINN., ST. PAUL, MINN. 55108, USA.
 SOURCE: JOURNAL OF ANIMAL SCIENCE, (1992) VOL.70, NO.6, P.1928-1935.
 FILE SEGMENT: NONUNIQUE
 LANGUAGE: ENGLISH
 AB Five white rot basidiomycetes were evaluated for their potential to improve ruminal degradation of oat straw and alfalfa stems. *Phanerochaete chrysosporium* (PC), *Scytinostroma galactinum* (SG), *Phlebia tremellosa* (PT), *Phellinus pini* (PP), and *Pholiota mutabilis* (PM) were incubated on oat straw and alfalfa stems for 30 d at 28.degree.C and 90% relative humidity. Detergent fiber and total fiber components (**neutral** sugars, uronic acids, Klason lignin (KL), and ester- and ether-linked non-core lignin phenolics), core lignin nitrobenzene oxidation products, and IVDMD were determined. Electron microscopy of KMnO4-stained and cellulase/colloidal gold-labeled sections was used to monitor fungal activity. Large losses of DM were noted for all fungal species on both substrates. Lignin (KL and ADL) was removed (P <.05) from oat straw by PC and PT treatment, but no net loss of lignin was observed for fungal treatment of alfalfa stems. Cell-wall polysaccharides were removed from both substrates by fungal activity. Only PC increased (P <.05) IVDMD of oat straw, and SG, PT, PP, and PC treatment decreased (P <.05) IVDMD of alfalfa stems, presumably because the fungi removed the most readily fermentable polysaccharides. Transmission electron microscopy using KMnO4 staining showed a nonselective white rot attack. Cytochemical studies using colloidal gold-labeled exo- and endocellulases were used to map the location of cellulose in the cell wall before and after decay by

the white rot fungi. All the white rot fungi tested had eroded and thinned

cell walls. Residual cells walls were well-labeled; both endo and exocellulose-colloidal gold identified the cellulosic wall material that remained. It seems that PC can improve the quality of oat straw, but the loss of DM severely limits the practical benefit of this increased digestibility.

AB Five white rot basidiomycetes were evaluated for their potential to improve ruminal degradation of oat straw and alfalfa stems. *Phanerochaete chrysosporium* (PC), *Scytinostroma galactinum* (SG), *Phlebia tremellosa* (PT), *Phellinus pini* (PP), and *Pholiota mutabilis* (PM) were incubated on oat straw and alfalfa stems for 30 d at 28.degree.C and 90% relative humidity. Detergent fiber and total fiber components (**neutral** sugars, uronic acids, Klason lignin (KL), and ester- and ether-linked non-core lignin phenolics), core lignin nitrobenzene oxidation products, and IVDMD. . . .

ST PHANEROCHAETE **CHRYSPORIUM**; SCYTINOSTROMA GALACTINUM; PHLEBIA TREMELLOSA; PHELLINUS PINI; PHOLIOTA MUTABILIS; FUNGUS; PLANT; FORAGE CROP; LIGNIN; POLYSACCHARIDE; ANIMAL PRODUCTION; FEED INDUSTRY

RN 60-29-7 (ETHER)
7440-57-5 (COLLOIDAL GOLD)
7722-64-7 (KMNO4)
8068-04-0 (KLASON LIGNIN)
9004-34-6 (CELLULOSE)
9005-53-2 (LIGNIN)
9012-54-8 (CELLULASE)

=> d his

(FILE 'HOME' ENTERED AT 15:28:17 ON 23 MAR 2001)

INDEX 'CAOLD, CAPLUS, CROPU, DGENE, DPCI, ENCOMPPAT, ENCOMPPAT2,
EUROPATFULL, IFIPAT, INPADOC, JAPIO, PAPERCHEM2, PATDD, PATDPA, PATOSDE,
PATOSEP, PATOSWO, PCTFULL, PIRA, RAPRA, SYNTHLINE, TULSA, TULSA2,
USPATFULL, WPIDS, WPINDEX' ENTERED AT 15:28:24 ON 23 MAR 2001
SEA CELLULAS?

242 FILE CAOLD
13990 FILE CAPLUS
190 FILE CROPU
2074 FILE DGENE
488 FILE DPCI
41 FILE ENCOMPPAT
41 FILE ENCOMPPAT2
1547 FILE EUROPATFULL
887 FILE IFIPAT
963 FILE INPADOC
805 FILE JAPIO
2431 FILE PAPERCHEM2
26 FILE PATDD
249 FILE PATDPA
87 FILE PATOSDE
265 FILE PATOSEP
251 FILE PATOSWO
3388 FILE PCTFULL
369 FILE PIRA
27 FILE RAPRA
1 FILE SYNTHLINE
10 FILE TULSA
1 FILE TULSA2
3187 FILE USPATFULL
2203 FILE WPIDS
2203 FILE WPINDEX

L1 QUE CELLULAS?

FILE 'CAPLUS, PCTFULL, USPATFULL, PAPERCHEM2, WPIDS, DGENE, EUROPATFULL,
INPADOC, IFIPAT, JAPIO, DPCI, PIRA, PATOSEP, PATOSWO, PATDPA, CAOLD,
CROPU, PATOSDE, ENCOMPPAT, ENCOMPPAT2, RAPRA, PATDD, TULSA, SYNTHLINE,
TULSA2' ENTERED AT 15:28:41 ON 23 MAR 2001

L2 33763 S L1
L3 479 S L2 AND CHRYSOSPOR?
L4 162 S L3 AND (ALKALIN? OR NEUTRA?)
L5 157 DUP REM L4 (5 DUPLICATES REMOVED)
L6 67 S L5 AND PY<=1996
L7 0 S L6 AND (LUCKNOWENSE OR PANNORUM OR KERATINOPHILUM OR LOBATU
L8 26 S L6 AND MUTA?
L9 61 S L6 AND FUNG?
L10 25 S L9 AND MUTA?
L11 25 DUP REM L10 (0 DUPLICATES REMOVED)
L12 22 S L6 NOT (PHANEROCHAET? CHRYSOSPOR?)
L13 20 S L12 AND FUNG?
L14 16 S L6 NOT PHANEROCHAETE
L15 16 DUP REM L14 (0 DUPLICATES REMOVED)
L16 0 S L6 AND (LUCKNOWENSE OR PANNORUM OR KERATINOPHILUM OR LOBATU

L14 ANSWER 1 OF 16 PCTFULL COPYRIGHT 2001 MicroPatent
 ACCESSION NUMBER: 1994021801 PCTFULL
 TITLE (ENGLISH): PURIFICATION AND MOLECULAR CLONING OF EG III
CELLULASE
 TITLE (FRENCH): PURIFICATION ET CLONAGE MOLECULAIRE DE LA
CELLULASE EG III
 INVENTOR(S): WARD, Michael; CLARKSON, Kathleen, A.; LARENAS,
 Edmund, A.; LORCH, Jeffrey, D.; WEISS, Geoffrey, L.
 PATENT ASSIGNEE(S): GENENCOR INTERNATIONAL, INC.
 LANGUAGE OF PUBL.: English
 DOCUMENT TYPE: Patent
 PATENT INFORMATION:

	NUMBER	KIND	DATE
	WO 9421801	A2	19940929
DESIGNATED STATES:	CA FI JP AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT		
	SE		
APPLICATION INFO.:	WO 1994-US2657		19940311
PRIORITY (ORIGINAL):	US 1993-8/032848		19930317
ABEN	The present invention is directed to purified EG III cellulase enzyme isolated from <i>Trichoderma longibrachiatum</i> and the amino acid sequence of the secreted (mature) and non-secreted (preprotein) forms. The present invention is further directed to the DNA fragment and sequence that encodes the EG III cellulase enzyme. Also disclosed are methods for isolating either purified or highly enriched EG III cellulase obtained from <i>Trichoderma</i> spp. or genetically modified strains of <i>Trichoderma</i> spp.		
ABF	L'invention concerne l'enzyme cellulase EG III purifiée isolée de <i>Trichoderma longibrachiatum</i> ainsi que la séquence d'acides aminés se présentant sous forme sécrétée (mature) et non sécrétée (preprotéine). L'invention porte également sur le fragment d'ADN et la séquence codant l'enzyme cellulase EG III ainsi que sur des procédés d'isolation de la cellulase EG III purifiée ou fortement enrichie à partir de <i>Trichoderma</i> spp. ou de souches manipulées génétiquement de <i>Trichoderma</i> spp..		

L14 ANSWER 2 OF 16 PCTFULL COPYRIGHT 2001 MicroPatent
 ACCESSION NUMBER: 1994020672 PCTFULL
 TITLE (ENGLISH): PROCESS FOR BLEACHING PULP
 TITLE (FRENCH): PROCÉDE DE BLANCHIMENT DE LA PÂTE À BOIS
 INVENTOR(S): ERIKSSON, Karl-Erik, L.; YANG, Jan, L.
 PATENT ASSIGNEE(S): UNIVERSITY OF GEORGIA RESEARCH FOUNDATION, INC.
 LANGUAGE OF PUBL.: English
 DOCUMENT TYPE: Patent
 PATENT INFORMATION:

	NUMBER	KIND	DATE
	WO 9420672	A1	19940915
DESIGNATED STATES:	CA FI AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE		
APPLICATION INFO.:	WO 1994-US2710		19940314
PRIORITY (ORIGINAL):	US 1993-8/030790		19930312
ABEN	A method for the bleaching of hardwood and softwood pulp without chlorine or chlorine derivatives that provides a pulp with high brightness, good physical strength, and a low degree of brightness reversion. Hardwood pulp can be bleached without chlorine or chlorine derivatives to a high brightness level using the specific sequence OXZP.		

Optionally, the pulp can be subjected to **alkaline** extraction or enhanced **alkaline** extraction steps between the treatment steps to assist the removal of the lignin, as necessary. Softwood pulp can be bleached without chlorine or chlorine derivatives to a high brightness level also using the specific, yet different, optimized, sequence of process steps OXEpZP or OXZlEpZ2P. Softwood RDH (rapid displacement of heat) pulp is bleached with the sequence XEpZP.

ABF Procédé de blanchiment de la pâte de bois dur ou tendre sans chlore ou dérivés chlores et qui fournit une pâte de haute blancheur de bonne résistance mécanique et à faible degré de reversion de blancheur. La pâte de bois dur peut être blanchie à un haut degré de blancheur sans chlore ni dérivés chlores selon la séquence spécifique OXZP. Optionnellement la pâte peut être soumise entre les phases du traitement à des phases d'extraction alcaline ou d'extraction alcaline améliorée afin de favoriser si nécessaire l'élimination de la lignine. La pâte de bois tendre peut être blanchie sans chlore ni dérivés chlores à un haut degré de blancheur en utilisant également la séquence, différente et optimisée, des phases de processus OXEpZP ou OXZlEpZ2P. La pâte de bois tendre obtenue par DRC (déplacement rapide de chaleur) est blanchie selon la séquence XEpZP.

L14 ANSWER 3 OF 16 PCTFULL COPYRIGHT 2001 MicroPatent
 ACCESSION NUMBER: 1990002790 PCTFULL
 TITLE (ENGLISH): COMPOSITIONS AND METHODS TO VARY COLOR DENSITY
 TITLE (FRENCH): COMPOSITIONS ET PROCÉDES PERMETTANT DE MODIFIER
 L'INTENSITÉ DES
 COULEURS
 INVENTOR(S): OLSON, Lynne , A.; STANLEY, Patricia, M.
 PATENT ASSIGNEE(S): ECOLAB INC.
 LANGUAGE OF PUBL.: English
 DOCUMENT TYPE: Patent
 PATENT INFORMATION:

	NUMBER	KIND	DATE
	WO 9002790	A1	19900322
DESIGNATED STATES:	AT BE BR CH DE FR GB IT JP KR LU NL SE		
APPLICATION INFO.:	WO 1989-US3274		19890728
PRIORITY (ORIGINAL):	US 1988-245123		19880915

ABEN Aqueous processes and compositions of the invention for obtaining a "stone-washed", distressed or "used and abused" look in clothing, particularly in the panels and seams of denim jeans and jackets involve compositions that are stone-free that avoid mechanical abrasion of the fabric. In particular, the process and composition of the invention used to obtain the distressed, "stone-washed" or "acid washed look" are free of common pumice or pumice-bleach compositions, used in large institutional-size laundry machines, and rely solely on the chemical action of aqueous treatment compositions. The aqueous treatments can be made from liquid or solid concentrates.

ABF Compositions aqueuses et procédés permettant d'obtenir un effet "delave", fatigue ou "plus que servi" sur des habits notamment sur les pans et le long des coutures de pantalons et vestes de jean, n'ayant recours ni à des compositions delavantes ni à une usure du tissu par frottement mécanique. En effet, le procédé et la composition que décrit l'invention pour obtenir l'effet fatigue, "delave" ou "lavage à l'acide" n'utilisent pas de compositions à pierre ponce naturelle ou à agent decolorant. Le traitement se déroule dans de grandes machines à laver de taille industrielle et repose sur la seule action chimique de compositions aqueuses de traitement. Ces compositions aqueuses de traitement sont à base soit de concentrés liquides soit de concentrés solides.

L14 ANSWER 4 OF 16 PCTFULL COPYRIGHT 2001 MicroPatent
 ACCESSION NUMBER: 1988004282 PCTFULL
 TITLE (ENGLISH): SLUDGE RESTRUCTURING AND CONVERSION METHOD

TITLE (FRENCH): PROCEDE DE RESTRUCTURATION ET DE CONVERSION DE BOUES
 INVENTOR(S): ERICKSON, Lennert, G.; WORNE, Howard, E.
 PATENT ASSIGNEE(S): WASTE = ENERGY CORPORATION; ERICKSON, Lennert, G.;
 WORNE, Howard, E.
 LANGUAGE OF PUBL.: English
 DOCUMENT TYPE: Patent
 PATENT INFORMATION:

	NUMBER	KIND	DATE
	WO 8804282	A1	19880616
DESIGNATED STATES:	AT BE CH DE FR GB IT JP LU NL SE US		
APPLICATION INFO.:	WO 1987-US1477		19870618
PRIORITY (ORIGINAL):	US 1986-939231		19861208

ABEN A method for the restructuring of wastewater treatment sludges and conditioned solid wastes (1) to remove non-biodegradable solids and to convert biodegradable matter into methane fuel gas (17). The restructuring process includes particulate size reduction (2), enzyme hydrolysis (3), **alkaline** chemical hydrolysis (5), and removal of non-biodegradable particulate matter (10), including metallic hydroxides. The resultant BioFeedstock (12) includes biodegradable matter in solubilized form suitable for rapid metabolization in biological reactions, including anaerobic digestion (15). Intermediate chemical reactions are employed to refine the digester biogas (14) into higher grade methane fuel gas. The intermediate biological treatment sludges are reconstructed and recycled as additional BioFeedstock. The separated non-biodegradable particulate matter (11) is discharged as a biologically inert concentrate. Procédé permettant la restructuration de boues de traitement d'eaux usees et de dechets solides (1) apres conditionnement, afin d'eliminer les matieres solides non biodegradables et de convertir les substances biodegradables en gaz combustible de methane (17). Le processus de restructuration comporte une reduction a la taille particulaire (2), une hydrolyse enzymatique (3), une hydrolyse chimique **alkaline** (5), et l'elimination des substances particulaires non biodegradables (10), y compris des hydroxides metalliques. Le substrat biologique resultant (12) comporte des substances biodegradables sous une forme solubilisee appropriee a une metabolisation rapide dans des reactions biologiques, y compris une digestion anaerobie (15). Des reactions chimiques intermediaires sont mises en oeuvre pour raffiner le biogaz de digestion (14) en un gaz combustible de methane de haute qualite. Les boues de traitement biologique intermediaires sont reconstituees et recyclees sous forme de substrat biologique additionnel. Les substances particulaires (11) non-biodegradables separees sont evacuees sous forme de concentre biologiquement inerte.

L14 ANSWER 5 OF 16 USPATFULL

ACCESSION NUMBER: 95:110549 USPATFULL
 TITLE: DNA sequence encoding endoglucanase III
cellulase

INVENTOR(S): Ward, Michael, Half Moon Bay, CA, United States
 Clarkson, Kathleen A., San Francisco, CA, United States

States
 Larenas, Edmund A., San Carlos, CA, United States
 Lorch, Jeffrey D., Hudson, WI, United States
 Weiss, Geoffrey L., San Francisco, CA, United States
 PATENT ASSIGNEE(S): Genencor International, Inc., Rochester, NY, United States (U.S. corporation)

	NUMBER	DATE	
PATENT INFORMATION:	US 5475101	19951212	<--
APPLICATION INFO.:	US 1993-32848	19930317	(8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1992-862846, filed on 3 Apr 1992, now patented, Pat. No. US 5328841 which		

5290474

is a continuation-in-part of Ser. No. US 1991-707647,
filed on 30 Mar 1991, now patented, Pat. No. US

which is a continuation-in-part of Ser. No. US
1991-668640, filed on 13 Mar 1991, now abandoned which
is a continuation-in-part of Ser. No. US 1990-593919,
filed on 5 Oct 1990, now abandoned And a
continuation-in-part of Ser. No. US 1991-678865, filed
on 29 Mar 1991, now patented, Pat. No. US 5246853

DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Walsh, Stephen G.
LEGAL REPRESENTATIVE: Stone, Christopher L.
NUMBER OF CLAIMS: 1
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 6 Drawing Figure(s); 5 Drawing Page(s)
LINE COUNT: 834

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention is directed to purified EG III **cellulase**
enzyme isolated from *Trichoderma longibrachiatum* and the amino acid
sequence of the secreted (mature) and non-secreted (preprotein) forms.
The present invention is further directed to the DNA fragment and
sequence that encodes the EG III **cellulase** enzyme. Also
disclosed are methods for isolating either purified or highly enriched
EG III **cellulase** obtained from *Trichoderma* spp. or genetically
modified strains of *Trichoderma* spp.

L14 ANSWER 6 OF 16 USPATFULL

ACCESSION NUMBER: 93:41601 USPATFULL
TITLE: Compositions and methods that introduce variations in
color density into cellulosic fabrics, particularly
indigo dyed denim
INVENTOR(S): Olson, Lynne A., Mendota Heights, MN, United States
Stanley, Patricia M., Minneapolis, MN, United States
PATENT ASSIGNEE(S): Ecolab Inc., St. Paul, MN, United States (U.S.
corporation)

	NUMBER	DATE	
PATENT INFORMATION:	US 5213581	19930525	<--
APPLICATION INFO.:	US 1992-898845	19920615	(7)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1991-678133, filed on 1 Apr 1991, now patented, Pat. No. US 5122159 which is a continuation of Ser. No. US 1988-245123, filed on 15 Sep 1988, now patented, Pat. No. US 5006126		

DOCUMENT TYPE: Utility
PRIMARY EXAMINER: Clingman, A. Lionel
LEGAL REPRESENTATIVE: Merchant, Gould, Smith, Edell, Welter & Schmidt
NUMBER OF CLAIMS: 11
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 1 Drawing Figure(s); 1 Drawing Page(s)
LINE COUNT: 807

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Aqueous processes and compositions of the invention for obtaining a
"stone-washed", distressed or "used and abused" look in clothing,
particularly in the panels and seams of denim jeans and jackets involve
compositions that are stone-free that avoid mechanical abrasion of the
fabric. In particular, the process and composition of the invention
used to obtain the distressed, "stone-washed" or "acid washed look" are free
of common pumice or pumice-bleach compositions, used in large
institutional-size laundry machines, and rely solely on the chemical
action of aqueous treatment compositions. The aqueous treatments can be
made from liquid or solid concentrates.

L14 ANSWER 7 OF 16 USPATFULL

ACCESSION NUMBER: 92:48696 USPATFULL
TITLE: **Cellulase** compositions and methods that
introduce variations in color density into cellulosic
fabrics, particularly indigo dyed denim
INVENTOR(S): Olson, Lynne A., Mendota Heights, MN, United States
Stanley, Patricia M., Minneapolis, MN, United States
PATENT ASSIGNEE(S): Ecolab Inc., St. Paul, MN, United States (U.S.
corporation)

	NUMBER	DATE	
PATENT INFORMATION:	US 5122159	19920616	<--
APPLICATION INFO.:	US 1991-678133	19910401	(7)
DISCLAIMER DATE:	20080409		
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1988-245123, filed on 15 Sep 1988, now patented, Pat. No. US 5006126, issued on 9 Apr 1991		
DOCUMENT TYPE:	Utility		
PRIMARY EXAMINER:	Clingman, A. Lionel		
LEGAL REPRESENTATIVE:	Merchant, Gould, Smith, Edell, Welter & Schmidt		
NUMBER OF CLAIMS:	4		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	1 Drawing Figure(s); 1 Drawing Page(s)		
LINE COUNT:	787		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Aqueous processes and compositions of the invention for obtaining a
"stone-washed", distressed or "used and abused" look in clothing,
particularly in the panels and seams of denim jeans and jackets involve
compositions that are stone-free that avoid mechanical abrasion of the
fabric. In particular, the process and composition of the invention
used
to obtain the distressed, "stone-washed" or "acid washed look" are free
of common pumice or pumice-bleach compositions, used in large
institutional-size laundry machines, and rely solely on the chemical
action of aqueous treatment compositions. The aqueous treatments can be
made from liquid or solid concentrates.

L14 ANSWER 8 OF 16 USPATFULL

ACCESSION NUMBER: 91:28194 USPATFULL
TITLE: **Cellulase** compositions and methods that
introduce variations in color density into cellulosic
fabrics, particularly indigo dyed denim
INVENTOR(S): Olson, Lynne A., Mendota Heights, MN, United States
Stanley, Patricia M., Minneapolis, MN, United States
PATENT ASSIGNEE(S): Ecolab Inc., St. Paul, MN, United States (U.S.
corporation)

	NUMBER	DATE	
PATENT INFORMATION:	US 5006126	19910409	<--
APPLICATION INFO.:	US 1988-245123	19880915	(7)
DOCUMENT TYPE:	Utility		
PRIMARY EXAMINER:	Clingman, A. Lionel		
LEGAL REPRESENTATIVE:	Merchant, Gould, Smith, Edell, Welter & Schmidt		
NUMBER OF CLAIMS:	9		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	1 Drawing Figure(s); 1 Drawing Page(s)		
LINE COUNT:	820		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Aqueous processes and compositions of the invention for obtaining a
"stone-washed", distressed or "used and abused" look in clothing,
particularly in the panels and seams of denim jeans and jackets involve
compositions that are stone-free that avoid mechanical abrasion of the
fabric. In particular, the process and composition of the invention
used
to obtain the distressed, "stone-washed" or "acid washed look" are free

of common pumice or pumice-bleach compositions, used in large institutional-size laundry machines, and rely solely on the chemical action of aqueous treatment compositions. The aqueous treatments can be made from liquid or solid concentrates.

L14 ANSWER 9 OF 16 USPATFULL

ACCESSION NUMBER: 90:23556 USPATFULL

TITLE: Treatment of denim with **cellulase** to produce a stone washed appearance

INVENTOR(S): Olson, Lynne A., Mendota Heights, MN, United States

PATENT ASSIGNEE(S): Ecolab Inc., St. Paul, MN, United States (U.S. corporation)

	NUMBER	DATE	
	-----	-----	
PATENT INFORMATION:	US 4912056	19900327	<--
APPLICATION INFO.:	US 1988-283563	19881208 (7)	
DISCLAIMER DATE:	20060523		
RELATED APPLN. INFO.:	Division of Ser. No. US 1987-96953, filed on 15 Sep 1987, now patented, Pat. No. US 4832864		
DOCUMENT TYPE:	Utility		
PRIMARY EXAMINER:	Naff, David M.		
LEGAL REPRESENTATIVE:	Merchant, Gould, Smith, Edell, Welter & Schmidt		
NUMBER OF CLAIMS:	18		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	1 Drawing Figure(s); 1 Drawing Page(s)		
LINE COUNT:	761		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Denim having a stone washed appearance is produced without stones by treating with a **cellulase** enzyme. Unsewn dyed denim fabric or a newly manufactured garment made of dyed denim fabric is contacted with

an aqueous composition containing at least about 2500 CMCS units of **cellulase** per liter, and subjected to mechanical action.

Preferably, the aqueous composition provides at least about 6000 CMC units of **cellulase** per pound of unsewn fabric or garment. The aqueous may also contain an electrolyte, a buffer, a builder salt a **cellulase** activator, an antioxidant and a solubilizer.

L14 ANSWER 10 OF 16 USPATFULL

ACCESSION NUMBER: 89:40913 USPATFULL

TITLE: Compositions and methods that introduce variations in color density into cellulosic fabrics, particularly indigo dyed denim

INVENTOR(S): Olson, Lynne A., Mendota Heights, MN, United States

PATENT ASSIGNEE(S): Ecolab Inc., St. Paul, MN, United States (U.S. corporation)

	NUMBER	DATE	
	-----	-----	
PATENT INFORMATION:	US 4832864	19890523	<--
APPLICATION INFO.:	US 1987-96953	19870915 (7)	
DOCUMENT TYPE:	Utility		
PRIMARY EXAMINER:	Lieberman, Paul		
ASSISTANT EXAMINER:	McNally, John F.		
LEGAL REPRESENTATIVE:	Merchant, Gould, Smith, Edell, Welter & Schmidt		
NUMBER OF CLAIMS:	8		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	1 Drawing Figure(s); 1 Drawing Page(s)		
LINE COUNT:	711		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Aqueous processes and compositions of the invention for obtaining a "stone-washed", distressed or "used and abused" look in clothing, particularly in the panels and seams of denim jeans and jackets involve compositions that are stone-free that avoid mechanical abrasion of the fabric. In particular, the process and composition of the invention

used

to obtain the distressed, "stone-washed" or "acid washed look" are free of common pumice or pumice-bleach compositions, used in large institutional-size laundry machines, and rely solely on the chemical action of aqueous treatment compositions. The aqueous treatments can be made from liquid or solid concentrates.

L14 ANSWER 11 OF 16 USPATFULL

ACCESSION NUMBER: 86:20871 USPATFULL

TITLE: System and method for the fertilization of forest, farm

and other large plant communities

INVENTOR(S): Stensaas, Larry J., 2460 Lynwood Dr., Salt Lake City, UT, United States 84109

	NUMBER	DATE	
PATENT INFORMATION:	US 4581846	19860415	<--
APPLICATION INFO.:	US 1984-662716	19841019	(6)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1983-474354, filed on 11 Mar 1983 And Ser. No. US 1984-641341, filed on		

13

Aug 1984

DOCUMENT TYPE: Utility

PRIMARY EXAMINER: Bagwill, Robert E.

LEGAL REPRESENTATIVE: Workman, Nydegger & Jensen

NUMBER OF CLAIMS: 21

EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 9 Drawing Figure(s); 3 Drawing Page(s)

LINE COUNT: 633

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A large first package, and method of its production, for providing soluble plant macronutrients and micronutrients in a timed-release form from a contained second package to an extensive plant community. The bale-like first package comprises a biodegradable cellulosic matrix of municipal waste or other energy-rich organic matter within which the second package is supported. The second package contains insoluble rock mineral and rock phosphate particles and bacterial second

microorganisms

in a nourishing and hydrated microenvironment which allows the microorganisms to grow, and to produce enzymes and organic acids which act on the mineral particles and thereby create soluble nutrient compounds. Alternatively, the second package contains commercially refined fertilizers packaged to dissolve in a timed-release fashion.

The biodegradable package functions as it is introduced onto/into soil in association with vector plants. Upon hydration its microbial components become active so that macronutrients and micronutrients emanating from it are transferred first to the vector plants and thence to a series of recipient plants. Plants linked together by interroot microorganisms which provide for the distribution of nutrients to an extensive plant association and constitute active elements in a "radial cascade" of nutrients along concentration gradients. The microbial interlinked "source" and "sink" plants not only serve to buffer and transfer nutrients, but they also protect the soluble nutrient

compounds

from adsorption and loss to soil constituents.

L14 ANSWER 12 OF 16 USPATFULL

ACCESSION NUMBER: 78:43730 USPATFULL

TITLE: Thermostable **cellulase** and a method for producing the same

INVENTOR(S): Komura, Ichiro, Kawasaki, Japan
Awao, Takeyoshi, Fujisawa, Japan
Yamada, Kazuhiko, Fujisawa, Japan

PATENT ASSIGNEE(S): Ajinomoto Co., Inc., Tokyo, Japan (non-U.S. corporation)

	NUMBER	DATE	
PATENT INFORMATION:	US 4106989	19780815	<--
APPLICATION INFO.:	US 1977-791013	19770426	(5)

	NUMBER	DATE
PRIORITY INFORMATION:	JP 1976-49463	19760430
DOCUMENT TYPE:	Utility	
PRIMARY EXAMINER:	Shapiro, Lionel M.	
LEGAL REPRESENTATIVE:	Berman, Hans	
NUMBER OF CLAIMS:	5	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	3 Drawing Figure(s); 1 Drawing Page(s)	
LINE COUNT:	344	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		
AB The present invention relates to a newly found thermostable cellulase of <i>Sporotrichum cellulophilum</i> and a method for producing the same.		

L14 ANSWER 13 OF 16 EUROPATFULL COPYRIGHT 2001 WILA

PATENT APPLICATION - PATENTANMELDUNG - DEMANDE DE BREVET

ACCESSION NUMBER: 665324 EUROPATFULL EW 199531 FS OS STA B

TITLE: Compositions that introduce variations in color density into dyed cellulosic fabrics.
Zusammensetzungen zum Einbringen von Unterschieden der Farbdichte in gefaerbten Cellulosestextilien.
Compositions pour introduire des variations de densite de couleur dans des materiaux textiles cellulosiques teints.

INVENTOR(S): Olson, Lynne A., N. 5006 860thn Avenue South, Ellsworth, Wisconsin 54011, US

PATENT ASSIGNEE(S): ECOLAB INC., Ecolab Center, St. Paul Minnesota 55102, US

PATENT ASSIGNEE NO: 824350

AGENT: Maiwald, Walter, Dr. Dipl.-Chem., Maiwald & Partner Balanstrasse 57, D-81541 Muenchen, DE

AGENT NUMBER: 57586

OTHER SOURCE: ESP1995048 EP 0665324 A1 950802

SOURCE: Wila-EPZ-1995-H31-T1b

DOCUMENT TYPE: Patent

LANGUAGE: Anmeldung in Englisch; Veroeffentlichung in Englisch

DESIGNATED STATES: R BE; R DE; R ES; R FR; R GB; R GR; R IT; R LU; R NL; R SE

PATENT INFO.PUB.TYPE: EPA1 EUROPAEISCHE PATENTANMELDUNG

PATENT INFORMATION:

	PATENT NO	KIND DATE
	EP 665324	A1 19950802
'OFFENLEGUNGS' DATE:		19950802
APPLICATION INFO.:	EP 1995-100251	19880708
PRIORITY APPLN. INFO.:	US 1987-96953	19870915
RELATED DOC. INFO.:	EP 307564	DIV

GRANTED PATENT - ERTEILTES PATENT - BREVET DELIVRE

ACCESSION NUMBER: 665324 EUROPATFULL EW 200002 FS PS

TITLE: Compositions that introduce variations in color density into dyed cellulosic fabrics.
Zusammensetzungen zum Einbringen von Unterschieden der Farbdichte in gefaerbten Cellulosestextilien.
Compositions pour introduire des variations de densite

de couleur dans des matériaux textiles cellulosiques teints.

INVENTOR(S): Olson, Lynne A., N. 5006 860thn Avenue South,
Ellsworth, Wisconsin 54011, US

PATENT ASSIGNEE(S): ECOLAB INC., Ecolab Center, St. Paul Minnesota 55102,
US

PATENT ASSIGNEE NO: 824350

AGENT: Maiwald, Walter, Dr. Dipl.-Chem., Maiwald GmbH,
Elisenhof, Elisenstrasse 3, 80335 Muenchen, DE

AGENT NUMBER: 57586

OTHER SOURCE: BEPB2000002 EP 0665324 B1 0013

SOURCE: Wila-EPS-2000-H02-T1

DOCUMENT TYPE: Patent

LANGUAGE: Anmeldung in Englisch; Veroeffentlichung in Englisch

DESIGNATED STATES: R BE; R DE; R ES; R FR; R GB; R GR; R IT; R LU; R NL; R
SE

PATENT INFO.PUB.TYPE: EPB1 EUROPAEISCHE PATENTSCHRIFT

PATENT INFORMATION:

	PATENT NO	KIND	DATE
	EP 665324	B1	20000112
'OFFENLEGUNGS' DATE:			19950802
APPLICATION INFO.:	EP 1995-100251		19880708
PRIORITY APPLN. INFO.:	US 1987-96953		19870915
RELATED DOC. INFO.:	EP 307564	DIV	
REFERENCE PAT. INFO.:	EP 220016 A		GB 2094826 A
	US 4435307 A		US 4443355 A
	US 4479881 A		
REF. NON-PATENT-LIT.:	"Enzymatisk Vask" in Folkebladet of 19/01/1988 "OPEN POCKET WASHER-EXTRACTORS", a brochure by the Pellerin Milnor Corp., Kenner, LA 70063 (US) Ch.L.Riggs & J.C.Sherill: "Textile Laundering Technology"; Textile Rental Sevices Association of America, Hallandale, FL 33009 (US); p. 89-97		
ABEN	The removal of dye in localised areas of a dyed cellulosic fabric is accomplished by contacting the fabric with a composition containing water, a cellulase enzyme and an enzyme compatible surfactant, under agitation.		

L14 ANSWER 14 OF 16 EUROPATFULL COPYRIGHT 2001 WILA

PATENT APPLICATION - PATENTANMELDUNG - DEMANDE DE BREVET

ACCESSION NUMBER: 636740 EUROPATFULL EW 199505 FS OS STA B

TITLE: **CELLULASE** PREPARATION AND METHOD OF TREATING
CELLULOSIC FIBER THEREWITH.
CELLULASEPREPARATION UND VERFAHREN ZUR
BEHANDLUNG VON CELLULOSEFASERN.
PREPARATION DE **CELLULASE** ET SON UTILISATION
POUR LE TRAITEMENT DES FIBRES DE CELLULOSE.

INVENTOR(S): KAWAHATA, Keiko Seibutsu Kagaku Kenkyusho, Meiji Seika
Kabushiki Kaisha 3-1, Chiyoda 5-chome, Sakado-shi
Saitama 350-02, JP;
HAMAYA, Toru Seibutsu Kagaku Kenkyusho, Meiji Seika
Kabushiki Kaisha 3-1, Chiyoda 5-chome, Sakado-shi
Saitama 350-02, JP;
HIRAYAMA, Masao Seibutsu Kagaku Kenkyusho, Meiji Seika
Kabushiki Kaisha 3-1, Chiyoda 5-chome, Sakado-shi
Saitama 350-02, JP;
KONO, Toshiaki Seibutsu Kagaku Kenkyusho, Meiji Seika
Kabushiki Kaisha 3-1, Chiyoda 5-chome, Sakado-shi
Saitama 350-02, JP;
OTSUKA, Masaaki Rakuto Kasei Industrial Co., Ltd., 5-1
Sekinotsu 4-chome Otsu-shi, Shiga 520, JP

PATENT ASSIGNEE(S): MEIJI SEIKA KABUSHIKI KAISHA, 4-16 Kyobashi 2-chome,
Chuo-ku, Tokyo 104, JP;
Rakuto Kasei Industrial Co., Ltd., 5-1, Sekinotsu
4-chome, Otsu-shi, Shiga 520, JP

PATENT ASSIGNEE NO: 300654; 1846080

AGENT: Kyle, Diana, Elkington and Fife Prospect House 8
Pembroke Road, Sevenoaks, Kent TN13 1XR, GB

AGENT NUMBER: 32731

OTHER SOURCE: ESP1995008 EP 0636740 A1 950201

SOURCE: Wila-EPZ-1995-H05-T1b

DOCUMENT TYPE: Patent

LANGUAGE: Anmeldung in Japanisch; Veroeffentlichung in Englisch;
Verfahren in Englisch

DESIGNATED STATES: R DE; R DK; R ES; R FR; R IT

PATENT INFO.PUB.TYPE: EPA1 EUROPÄISCHE PATENTANMELDUNG (Internationale
Anmeldung)

PATENT INFORMATION:

	PATENT NO	KIND DATE
	EP 636740	A1 19950201
'OFFENLEGUNGS' DATE:		19950201
APPLICATION INFO.:	EP 1994-906367	19940210
PRIORITY APPLN. INFO.:	JP 1993-51306	19930218
RELATED DOC. INFO.:	WO 94-JP199	940210 INTAKZ
	WO 9419527	940901 INTPNR

ABEN A cellulose preparation which can improve the color and hand of
cellulosic fibers while suppressing a lowering in the strengths of the
fibers. The cellulose of the preparation can adsorb crystalline
cellulose and has an avicellase activity to CMCase activity ratio of
0.1 or above. The fibers treated with this preparation can retain a
relative residual tensile strength of at least 75 % per count at a
weight reduction rate of 5 %.

L14 ANSWER 15 OF 16 EUROPATFULL COPYRIGHT 2001 WILA

PATENT APPLICATION - PATENTANMELDUNG - DEMANDE DE BREVET

ACCESSION NUMBER: 455928 EUROPATFULL EW 199146 FS OS STA B

TITLE: Method of production of a xylanase-rich and a

cellulase-poor enzyme solution.

Verfahren zur Herstellung einer Xylanase-reichen und
Cellulase-armen Enzymloesung.

Methode de production d'une solution enzymatique riche
en xylanase et pauvre en **cellulase**.

INVENTOR(S): Gamerith, Gernot, Dipl.-Ing. Dr., Feldgasse 14/1,
A-4840

Voecklabruck, AT;

Emeder, Rudolf, Kemating 10, A-4863 Seewalchen, AT;

Groicher, Rene, Stelzhammerstrasse 34, A-4850 Timelkam,
AT

PATENT ASSIGNEE(S): LENZING AKTIENGESELLSCHAFT, Werkstrasse 1, A-4860
Lenzing, AT

PATENT ASSIGNEE NO: 469672

AGENT: Muellner, Erwin, Dr. et al, Patentanwaelte, Dr. Erwin
Muellner, Dipl.-Ing. Werner Katschinka, Dr. Martin
Muellner, Postfach 159, Weihburggasse 9, A-1010 Wien,

AT

AGENT NUMBER: 43675

OTHER SOURCE: ESP1991084 EP 0455928 A1 911113

SOURCE: Wila-EPZ-1991-H46-T1

DOCUMENT TYPE: Patent

LANGUAGE: Anmeldung in Deutsch; Veroeffentlichung in Deutsch

DESIGNATED STATES: R AT; R BE; R CH; R DE; R DK; R ES; R FR; R GB; R GR; R
IT; R LI; R LU; R NL; R SE

PATENT INFO.PUB.TYPE: EPA1 EUROPÄISCHE PATENTANMELDUNG

PATENT INFORMATION:

	PATENT NO	KIND DATE
	EP 455928	A1 19911113
'OFFENLEGUNGS' DATE:		19911113
APPLICATION INFO.:	EP 1990-890349	19901220
PRIORITY APPLN. INFO.:	AT 1990-1036	19900508

L14 ANSWER 16 OF 16 EUROPATFULL COPYRIGHT 2001 WILA

PATENT APPLICATION - PATENTANMELDUNG - DEMANDE DE BREVET

ACCESSION NUMBER: 307564 EUROPATFULL EW 198912 FS OS STA B
TITLE: Compositions and methods that introduce variations in color density into dyed cellulosic fabrics.
Zusammensetzungen und Verfahren zum Einbringen von Unterschieden der Farbdichte in gefaerbten Cellulosematerialien.
Compositions et methodes pour introduire des variations de densite de couleur dans des materiaux cellulosiques teints.
INVENTOR(S): Olson, Lynne A., 2370 Lexington Avenue South, Mendota Heights Minnesota 55120, US
PATENT ASSIGNEE(S): ECOLAB INC., Ecolab Center, St. Paul Minnesota 55102, US
PATENT ASSIGNEE NO: 824350
AGENT: Eisenfuehr & Speiser, Martinistrasse 24, D-2800 Bremen 1, DE
AGENT NUMBER: 100151
OTHER SOURCE: ESP1989012 EP 0307564 A2 890322
SOURCE: Wila-EPZ-1989-H12-T1
DOCUMENT TYPE: Patent
LANGUAGE: Anmeldung in Englisch; Veroeffentlichung in Englisch
DESIGNATED STATES: R BE; R DE; R ES; R FR; R GB; R GR; R IT; R LU; R NL; R SE
PATENT INFO.PUB.TYPE: EPA2 EUROPAEISCHE PATENTANMELDUNG
PATENT INFORMATION:

	PATENT NO	KIND DATE
	EP 307564	A2 19890322
'OFFENLEGUNGS' DATE:		19890322
APPLICATION INFO.:	EP 1988-110929	19880708
PRIORITY APPLN. INFO.:	US 1987-96953	19870915

GRANTED PATENT - ERTEILTES PATENT - BREVET DELIVRE

ACCESSION NUMBER: 307564 EUROPATFULL EW 199608 FS PS
TITLE: Methods that introduce variations in color density into dyed cellulosic fabrics.
Verfahren zum Einbringen von Unterschieden der Farbdichte in gefaerbten Cellulosematerialien.
Methodes pour introduire des variations de densite de couleur dans des materiaux cellulosiques teints.
INVENTOR(S): Olson, Lynne A., 2370 Lexington Avenue South, Mendota Heights Minnesota 55120, US
PATENT ASSIGNEE(S): ECOLAB INC., Ecolab Center, St. Paul Minnesota 55102, US
PATENT ASSIGNEE NO: 824350
AGENT: Maiwald, Walter, Dr. Dipl.-Chem. et al, Maiwald & Partner, Poccistrasse 11, D-80336 Muenchen, DE
AGENT NUMBER: 57586
OTHER SOURCE: EPB1996012 EP 0307564 B1 960221
SOURCE: Wila-EPS-1996-H08-T1
DOCUMENT TYPE: Patent
LANGUAGE: Anmeldung in Englisch; Veroeffentlichung in Englisch
DESIGNATED STATES: R BE; R DE; R ES; R FR; R GB; R GR; R IT; R LU; R NL; R

PATENT INFO.PUB.TYPE: SE
PATENT INFORMATION: EPB1 EUROPÄISCHE PATENTSCHRIFT

PATENT NO KIND DATE

	EP 307564	B1 19960221
'OFFENLEGUNGS' DATE:		19890322
APPLICATION INFO.:	EP 1988-110929	19880708
PRIORITY APPLN. INFO.:	US 1987-96953	19870915
REFERENCE PAT. INFO.:	EP 206418 A	EP 220016 A
	US 3844890 A	US 4081328 A
	US 4435307 A	US 4443355 A
REF. NON-PATENT-LIT.:	G. Vanescini e.a., Biotechnol. Bioeng. 23(7), 1573-90 (1981) Novo Enzymes: Celluclast (R), pamphlet No. B 153g-GB, June 1984 (Novo Industri A/S); Novo Enzymes:Celluzyne TM, Pamphlet No. B 338c-GB, April 1987	
	(Novo Industri A/S) Publication AF 187/3-GB, published 1983 by Novo Industri A/S S. Hayashida e.a., Agric. Biol. Chem., 44(3), 481-487 (1980) S. Hayashida e.a., Agric. Biol. Chem., 44 (8) 1721-1728 (1980) M. Tschetkarov e.a., Monatshefte fuer Chemie, 98(5), 1916-29 (1967) M.A. Hulme, Arch. Biochem. Biophys., 147(1), 49-54 (1971) Plant & Cell Physiology, 17, 899-908 (1976); W.A. Wood e.a., eds. Biomass: Meth. in Enzymol., 160, Chapter 13 (1988) M. Schulein, Methods in Enzymology, 60, 234-242 (1988) Handbook of Practical Biotechnology, Boyce (1986) Ghose, Pure & Applied Chemistry, 59(2), 257-268 (1987)	
ABEN	The removal of dye in localised areas of a dyed cellulosic fabric is accomplished by contacting the fabric with a composition containing water, a cellulase enzyme and an enzyme compatible surfactant, under agitation.	